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EXAMINER
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REDDY, SATHAVARAM I

ART UNIT	PAPER NUMBER
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1785

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09/14/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/564,968	<b>Applicant(s)</b> YUKAWA ET AL.	
	<b>Examiner</b> SATHAVARAM I. REDDY	<b>Art Unit</b> 1785	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 15-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Examiner's Comments***

- 1. Applicants' response filed on 7/26/2010 has been fully considered. Claims 1, 14 and 17 are amended, claims 15-20 are withdrawn and claims 1-20 are pending.**

### ***Continued Examination Under 37 CFR 1.114***

- 2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/26/2010 has been entered.**

### ***Priority***

- 3. Should applicant desire to obtain the benefit of foreign priority under 35 U.S.C. 119(a)-(d) prior to declaration of an interference, a certified English translation of the foreign application must be submitted in reply to this action. 37 CFR 41.154(b) and 41.202(e).**

Failure to provide a certified translation may result in no benefit being accorded for the non-English application.

***Election/Restrictions***

1. Claims 15-20 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claims 15-20 are drawn to a method and a first action on the merits has been made on claims 1-14 drawn to the product.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 15-20 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Objections***

2. Claim 5 is objected to because of the following informalities: The word “eomprising” should be spelled as “comprising”. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**4. Claims 1-4, 6, 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faykish et al (US 5,866,236) in view of Ochi et al (US 5,812,316) in further view of Araki et al (US 5,714,223) and further in view of Kuo et al (US 2006/0029753).**

Regarding claim 1, Faykish et al (US 5,866,236) discloses a retroreflective sheet for security comprising a binder layer (Fig. 1 #70 "spacing resin"; col. 3, lines 39-46), high-refractive index glass beads (Fig. 1 #60 "glass microspheres"; col. 3, lines 39-46), a print resin layer (Fig. 1 #170 "pattern coated layer"; col. 5, lines 16-29), a focusing layer (Fig. 1 #120 "tie layer"; col. 4, lines 41-49), a metal layer (Fig. 1 #30 "reflective layer; col. 3, lines 6-30) and a pressure-sensitive adhesive layer (Fig. 1 #150 "adhesive"; col. 5, lines 1-29) where the print resin layer forms a mark on the binder layer opposite a surface layer side (Fig. 1 #170 "pattern coated layer"; col. 5, lines 16-29), the high-refractive index glass beads are disposed in the binder layer where the print resin layer is not formed and are not present between a print resin layer and the metal layer (Fig. 1 #60 "glass microspheres"; col. 3, lines 39-46).

Faykish et al (US 5,866,236) does not appear to explicitly disclose the retroreflective sheet comprising a surface layer and the print resin layer made of a composition containing a room temperature curing resin as a main component and the position for disposing the high-refractive index glass beads does not coincide with the position of the print resin layer in the thickness direction of the retroreflective sheet.

However, Ochi et al (US 5,812,316) discloses the retroreflective sheet comprising a surface layer ("protective film"; col. 8, lines 24-35).

Araki et al (US 5,714,223) discloses the retroreflective sheet comprising the print resin layer made of a composition containing a room temperature curing resin as a main component ("print layer"; col. 11, lines 27-37).

Kuo et al (US 2006/0029753) discloses the retroreflective sheet comprising the position for disposing the high-refractive index glass not coinciding with the position of the print resin layer in the thickness direction of the retroreflective sheet (Fig. 1; paragraph [0045]).

Regarding claim 2, Faykish et al (US 5,866,236) discloses the retroreflective sheet comprising the binder layer made of a composition comprising a thermosetting resin (Fig. 1 #70 "spacing resin"; col. 3, lines 39-46). The binder layer of Faykish et al (US 5,866,236) can be made of polyester which is considered a thermosetting resin.

Regarding claim 3, Faykish et al (US 5,866,236) discloses the retroreflective sheet comprising a self-destructive layer between a focusing layer and the metal layer (Fig. 1 #20 "structured layer"; col. 3, lines 6-30).

Art Unit: 1785

Regarding claim 4, Faykish et al (US 5,866,236) discloses the retroreflective sheet comprising the self-destructive layer made of a resin composition having low adhesion with the metal layer (Fig. 1 #20 "structured layer"; col. 3, lines 6-30). The resin composition having low adhesion with the metal layer is an acrylic material such as acrylate monomers.

Regarding claim 6, Faykish et al (US 5,866,236) discloses the retroreflective sheet comprising the self-destructive layer comprising a hologram of diffraction grating (Fig. 1 #20 "structured layer"; col. 3, lines 6-30).

The subjecting of a fragile film or supporting film to regular or irregular treatment is a process limitation in a product claim.

"Even though the product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." (In re Thorpe, 227 USPQ 964,966) Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and

Art Unit: 1785

the prior art product (In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

Regarding claim 7, Faykish et al (US 5,866,236) discloses the retroreflective sheet comprising the binder layer made of polyester (Fig. 1 #70 “spacing resin”; col. 3, lines 39-46).

Faykish et al (US 5,866,236) does not appear to explicitly disclose the retroreflective sheet comprising a surface layer made of polyester.

However, Ochi et al (US 5,812,316) discloses the retroreflective sheet comprising a surface layer made of polyester (“protective film”; col. 8, lines 24-35).

Both the surface layer of Ochi et al (US 5,812,316) and the binder layer of Faykish et al (US 5,866,236) are made of polyester.

Regarding claim 14, Faykish et al (US 5,866,236) discloses a retroreflective sheet for security comprising a binder layer (Fig. 1 #70 “spacing resin”; col. 3, lines 39-46), high-refractive index glass beads (Fig. 1 #60 “glass microspheres”; col. 3, lines 39-46), a print resin layer (Fig. 1 #170 “pattern coated layer”; col. 5, lines 16-29), a focusing layer (Fig. 1 #120 “tie layer”; col. 4, lines 41-49) and a metal layer (Fig. 1 #30 “reflective layer; col. 3, lines 6-30) where the print resin layer forms a mark on the binder layer



Art Unit: 1785

(Fig. 1 #170 “pattern coated layer”; col. 5, lines 16-29), the high-refractive index glass beads are disposed in the binder layer where the print resin layer is not formed (Fig. 1 #60 “glass microspheres”; col. 3, lines 39-46) and where the position for disposing the high-refractive index glass beads does not coincide with the surface layer side in the thickness direction of the retroreflective sheet (Fig. 1; col. 3, lines 39-46; col. 5, lines 16-29). It can be seen in Fig. 1 that the high-refractive glass beads do not coincide with the print resin layer. Also, the print resin layer is formed on the binder layer and is not disposed in the binder layer where the high-refractive glass beads are formed.

Faykish et al (US 5,866,236) does not appear to explicitly disclose the retroreflective sheet comprising a surface layer and the print resin layer made of a composition containing a room temperature curing resin as a main component and the position for disposing the high-refractive index glass beads does not coincide with the position of the print resin layer in the thickness direction of the retroreflective sheet.

However, Ochi et al (US 5,812,316) discloses the retroreflective sheet comprising a surface layer (“protective film”; col. 8, lines 24-35).

Araki et al (US 5,714,223) discloses the retroreflective sheet comprising the print resin layer made of a composition containing a room temperature curing resin as a main component (“print layer”; col. 11, lines 27-37).

Kuo et al (US 2006/0029753) discloses the retroreflective sheet comprising the position for disposing the high-refractive index glass not coinciding with the position of the print resin layer in the thickness direction of the retroreflective sheet (Fig. 1; paragraph [0045]).

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) are analogous art because they are from the same field of retroreflective sheets.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Faykish et al (US 5,866,236) and Ochi et al (US 5,812,316) before him or her, to modify the retroreflective sheet of Faykish et al (US 5,866,236) to include the surface layer of Ochi et al (US 5,812,316) in that having the surface layer provides high mechanical strength ((col. 8, lines 36-38) of Ochi et al (US 5,812,316)).

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Faykish et al (US 5,866,236) and Araki et al (US 5,714,223) before him or her, to modify the retroreflective sheet of Faykish et al (US 5,866,236) to include the print resin layer composition of Araki et al (US 5,714,223) in that having the required print resin composition provides improved adhesion of the print resin layer ((col. 11, lines 27-37) of Araki et al (US 5,714,223)).

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Faykish et al (US 5,866,236) and Kuo et al (US 2006/0029753) before him or her, to modify the retroreflective sheet of Faykish et al (US 5,866,236) to include the print resin layer glass bead configuration of Kuo et al (US 2006/0029753) in that having the position for disposing the high-refractive index glass beads not coinciding with the position of the print resin layer in the thickness direction of the retroreflective sheet provides indicia that is viewable over retroreflective light conditions ((paragraph [0007]) of Kuo et al (US 2006/0029753)).

**5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) in view of Rivera et al (US 2005/0179253).**

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) are relied upon as described above.

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) do not appear to explicitly disclose the retroreflective sheet comprising a self-destructive layer disposed on the pressure-sensitive adhesive layer and in between a pressure-sensitive adhesive layer and a metal layer.

However, Rivera et al (US 2005/0179253) discloses the retroreflective sheet comprising a self-destructive layer disposed on the pressure-sensitive adhesive layer and in between a pressure-sensitive adhesive layer and a metal layer (paragraph [0028]).

The metal layer is discussed by Faykish et al (US 5,866,236) and the self-destructive layer disposed on the pressure-sensitive adhesive layer can be disposed on the metal layer thus having a self-destructive layer in between a metal layer and pressure-sensitive adhesive layer.

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223), Kuo et al (US 2006/0029753) and Rivera et al (US 2005/0179253) are analogous art because they are from the same field of retroreflective sheets.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223), Kuo et al (US 2006/0029753) and Rivera et al (US 2005/0179253) before him or her, to modify the retroreflective sheet of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) to include the self-destructive layer between a pressure-sensitive adhesive and metal layer of Rivera et al (US 2005/0179253) in that having a self-

Art Unit: 1785

destructive layer in between a pressure-sensitive adhesive layer provides security for product authentication ((paragraph [0005], lines 1-5) of Rivera et al (US 2005/0179253)).

**6. Claims 8, 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) in view of Pearce et al (US 5,342,821).**

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) are relied upon as described above.

Regarding claim 8, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) do not appear to explicitly disclose a surface resin layer, an image formation resin layer and a dye migration preventive resin layer in order.

However, Pearce et al (US 5,342,821) discloses the retroreflective sheet comprising a surface resin layer ("support"; col. 5, lines 34-39), an image formation resin layer ("dye image-receiving layer"; col. 5, lines 57-68) and a dye migration preventive resin layer ("dye-migration barrier layer"; col. 8, lines 13-18) in order.

Art Unit: 1785

The surface resin layer having a weak affinity with the sublimable dye and allowing the sublimable dye to penetrate, the image formation resin layer having an affinity with the sublimable dye and a dye migration preventive layer preventing migration of the sublimable dye are intended use limitations.

The limitation(s) “the surface resin layer having a weak affinity with the sublimable dye and allowing the sublimable dye to penetrate, the image formation resin layer having an affinity with the sublimable dye and a dye migration preventive layer preventing migration of the sublimable dye” is (an) intended use limitation(s) and is not further limiting in so far as the structure of the product is concerned. Note that “in apparatus, article, and composition claims, intended use must result in a **structural difference** between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. ***If the prior art structure is capable of performing the intended use, then it meets the claim.*** In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art.” [emphasis added] *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963). See MPEP § 2111.02.

Regarding claim 9, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) do not appear to explicitly

Art Unit: 1785

disclose the retroreflective sheet comprising the dye migration preventive layer being a resin layer containing a vinyl resin.

However, Pearce et al (US 5,342,821) discloses the retroreflective sheet comprising the dye migration preventive layer being a resin layer containing a vinyl resin ("dye-migration barrier layer"; col. 7, lines 10-22; col. 8, lines 13-18).

In regard to the glass transition temperature of 70 °C and a SP value of 9.0 or more, it is given that Pearce et al (US 5,342,821) disclosing the dye migration preventive layer being a resin layer containing a vinyl resin as a main component to inherently have the glass transition temperature of 70 °C and a SP value of 9.0 or more.

Regarding claim 13, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) do not appear to explicitly disclose the retroreflective sheet comprising the image formation resin layer being a resin layer and containing a low-molecular weight compound with a molecular weight of 1300 or less in an amount of 0% to 20% inclusive.

However, Pearce et al (US 5,342,821) discloses the retroreflective sheet comprising the image formation resin layer being a resin layer and containing a low-molecular weight compound with a molecular weight of 1300 or less in an amount of 0% (col. 5, lines 34-39; col. 5, lines 57-68).

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223), Kuo et al (US 2006/0029753) and Pearce et al (US 5,342,821) are analogous art because they are from the same field of retroreflective sheets.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223), Kuo et al (US 2006/0029753) and Pearce et al (US 5,342,821) before him or her, to modify the retroreflective sheet of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) to include the surface resin layer, image formation resin layer and dye migration preventive layer of Pearce et al (US 5,342,821) in that having a surface resin layer, image formation resin layer and dye migration preventive layer prevents smearing of a dye ((col. 1, lines 6-13) of Pearce et al (US 5,342,821)).

**7. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223), Kuo et al (US 2006/0029753) and Pearce et al (US 5,342,821) in view of Bourdelais et al (US 6,261,994).**



Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223), Kuo et al (US 2006/0029753) and Pearce et al (US 5,342,821) are relied upon as described above.

Regarding claim 10, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223), Kuo et al (US 2006/0029753) and Pearce et al (US 5,342,821) do not appear to explicitly disclose the retroreflective sheet comprising a dye migration preventive layer having a thickness of 1  $\mu\text{m}$  to 100  $\mu\text{m}$ .

However, Bourdelais et al (US 6,261,994) discloses the retroreflective sheet comprising a dye migration preventive layer having a thickness of 0.20  $\mu\text{m}$  to 1.5  $\mu\text{m}$  (col. 6, lines 57-59; col. 6, line 65-col. 1, line 7).

Bourdelais et al (US 6,261,994) and the claims differ in that film thickness of the dye migration preventive resin layer does not teach the exact same proportions as recited in the instant claims.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by Bourdelais et al (US 6,261,994) overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges

Art Unit: 1785

disclosed in the prior art reference in order to provide optimum reflective properties (col. 4, lines 13-15), particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Regarding claim 11, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223), Kuo et al (US 2006/0029753) and Pearce et al (US 5,342,821) do not appear to explicitly disclose the dye migration preventive layer being a biaxially stretched film.

However, Bourdelais et al (US 6,261,994) discloses the retroreflective sheet comprising the dye migration preventive layer being a biaxially stretched film (col. 4, lines 38-43).

In regard to the stretching of 10% or more in a winding direction and in a width direction, it is given that Bourdelais et al (US 6,261,994) disclosing a biaxially stretched film which is a film that is stretched in winding and width directions to inherently be stretched 10% or more in a winding direction and in a width direction.

Art Unit: 1785

Regarding claim 12, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223), Kuo et al (US 2006/0029753) and Pearce et al (US 5,342,821) do not appear to explicitly disclose the retroreflective sheet comprising the dye migration preventive layer being a biaxially stretched film.

However, Bourdelais et al (US 6,261,994) discloses the retroreflective sheet comprising the dye migration preventive layer being a biaxially stretched film (col. 4, lines 38-43).

In regard to the shrinkage ratio in a winding direction being 1% or less after being heated for 150 °C or more, it is given that Bourdelais et al (US 6,261,994) disclosing a biaxially stretched film which is a film that is stretched in winding and width directions to inherently have a shrinkage ratio in a winding direction being 1% or less after being heated for 150 °C or more.

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223), Kuo et al (US 2006/0029753), Pearce et al (US 5,342,821) and Bourdelais et al (US 6,261,994) are analogous art because they are from the same field of retroreflective sheets.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316),

Art Unit: 1785

Araki et al (US 5,714,223), Kuo et al (US 2006/0029753), Pearce et al (US 5,342,821) and Bourdelais et al (US 6,261,994) before him or her, to modify the retroreflective sheet of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223), Kuo et al (US 2006/0029753) and Pearce et al (US 5,342,821) to include the biaxially stretched film of Bourdelais et al (US 6,261,994) in that having a dye migration preventive resin layer provides optimum reflective properties ((col. 4, lines 13-15) of Bourdelais et al (US 6,261,994)).

**8. Claims 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) in view of Yukawa et al (US 2005/0148469).**

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) are relied upon as described above.

Regarding claim 8, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) do not appear to explicitly disclose the retroreflective sheet comprising a surface resin layer, an image formation resin layer and a dye migration preventive resin layer in order.

However, Yukawa et al (US 2005/0148469) discloses the retroreflective sheet comprising a surface resin layer, an image formation resin layer and a dye migration preventive resin layer in order (paragraphs [0019], [0020] and [0133]).

The surface resin layer having a weak affinity with the sublimable dye and allowing the sublimable dye to penetrate, the image formation resin layer having an affinity with the sublimable dye and a dye migration preventive layer preventing migration of the sublimable dye are intended use limitations.

Regarding claim 9, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) do not appear to explicitly disclose the retroreflective sheet comprising the dye migration preventive layer being a resin layer containing a vinyl resin with a glass transition temperature of 70 °C or more and a SP value of 9.0 or more as a main component.

However, Yukawa et al (US 2005/0148469) discloses the retroreflective sheet comprising the dye migration preventive resin layer being a resin layer containing a vinyl resin with a glass transition temperature of 70 °C or more and a SP value of 9.0 or more as a main component (paragraph [0022]).

Regarding claim 10, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) do not appear to explicitly

Art Unit: 1785

disclose the retroreflective sheet comprising the film thickness of the dye migration preventive resin layer being 1  $\mu\text{m}$  to 100  $\mu\text{m}$ .

However, Yukawa et al (US 2005/0148469) discloses the retroreflective sheet comprising the film thickness of the dye migration preventive resin layer being 1  $\mu\text{m}$  to 100  $\mu\text{m}$  (paragraph [0139]).

Regarding claim 11, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) do not appear to explicitly disclose the retroreflective sheet comprising the dye migration preventive resin layer being a biaxially stretched film that is stretched by 10% or more in a winding direction and in a width direction.

However, Yukawa et al (US 2005/0148469) discloses the retroreflective sheet comprising the dye migration preventive resin layer being a biaxially stretched film that is stretched by 10% or more in a winding direction and in a width direction (paragraph [0023]).

Regarding claim 12, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) do not appear to explicitly disclose the retroreflective sheet comprising a shrinkage ratio of the biaxially stretched

Art Unit: 1785

film in the winding direction of the film after being heated at 150 °C for 30 minutes is 1.0% or less.

However, Yukawa et al (US 2005/0148469) discloses the retroreflective sheet comprising a shrinkage ratio of the biaxially stretched film in the winding direction of the film after being heated at 150 °C for 30 minutes is 1.0% or less (paragraph [0023]).

Regarding claim 13, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) do not appear to explicitly disclose the retroreflective sheet comprising the image formation resin layer being a resin layer containing a low-molecular-weight compound with a molecular weight of 1300 or less in an amount of 0% to 20% inclusive.

However, Yukawa et al (US 2005/0148469) discloses the retroreflective sheet comprising the image formation resin layer being a resin layer containing a low-molecular-weight compound with a molecular weight of 1300 or less in an amount of 0% to 20% inclusive (paragraph [0026]).

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223), Kuo et al (US 2006/0029753) and Yukawa et al (US 2005/0148469) are analogous art because they are from the same field of retroreflective sheets.

Art Unit: 1785

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223), Kuo et al (US 2006/0029753) and Yukawa et al (US 2005/0148469) before him or her, to modify the retroreflective sheet of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Kuo et al (US 2006/0029753) to include the surface resin layer, image formation resin layer and dye migration preventive resin layer of Yukawa et al (US 2005/0148469) in that having a surface resin layer, image formation resin layer and dye migration preventive resin layer prevents the migration of a sublimable dye and provides sharpness and color density to the image ((paragraphs [0004] and [0005]) of Yukawa et al (US 2005/0148469)).

### ***Response to Arguments***

**9. Applicant's arguments, see page 13, filed 6/30/2010, with respect to the rejection(s) of claim(s) 1-4, 6, 7 and 14 under U.S.C. 103(a) in regard to the position for disposing the high-refractive index glass not coinciding with the position of the print resin layer in the thickness direction of the retroreflective sheet have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223), Kuo et al (US 2006/0029753).**



**10. Applicant's arguments, see page 10, filed 6/30/2010, with respect to the 112 2<sup>nd</sup> rejections have been fully considered and are persuasive. The 112 2<sup>nd</sup> rejections of claims 1-14 have been withdrawn.**

**11. Applicant's arguments filed 6/30/2010 have been fully considered but they are not persuasive.**

***Applicants argue that the restriction requirement should be withdrawn.***

The Examiner disagrees and notes that Group 2 requires the high-refractive glass beads to be embedded in the binder layer where the print resin layer is formed, Groups 1, 3 and 4 do not. Group 3 requires a print layer having an affinity with a sublimable dye, Group 1 requires a print layer comprising a room temperature curing resin and Group 4 only requires a transfer paper. Group 4 requires a transfer paper, Group 1 does not.

***Applicants argue that Faykish et al (US 5,866,236) does not disclose a focusing layer and the required ordering of the layers.***

The Examiner disagrees and notes that Faykish et al (US 5,866,236) discloses in this order a binder layer (Fig. 1 #70 "spacing resin"; col. 3, lines 39-46), high-refractive

Art Unit: 1785

index glass beads (Fig. 1 #60 “glass microspheres”; col. 3, lines 39-46), a print resin layer (Fig. 1 #170 “pattern coated layer”; col. 5, lines 16-29), a focusing layer (Fig. 1 #120 “tie layer”; col. 4, lines 41-49), a metal layer (Fig. 1 #30 “reflective layer; col. 3, lines 6-30) and a pressure-sensitive adhesive layer (Fig. 1 #150 “adhesive”; col. 5, lines 1-29) and the tie layer of Faykish et al (US 5,866,236) is interpreted as the focusing layer. The tie layer of Faykish et al (US 5,866,236) in col. 4, lines 41-49 of Faykish et al (US 5,866,236) and the focusing layer in paragraph [0040] of the specification of the present invention can both be of acrylic resins and are therefore interpreted as the same layer. Also, Ochi et al (US 5,812,316) is used to disclose the required surface layer.

***Applicants argue that Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) do not cure the deficiencies of Faykish et al (US 5,866,236).***

The Examiner disagrees and notes that Ochi et al (US 5,812,316) is a teaching reference used to teach a surface layer and that Araki et al (US 5,714,223) is a teaching reference used to teach the print resin layer composition.

However, note that while Ochi et al (US 5,812,316) does not disclose all the features of the present claimed invention, Ochi et al (US 5,812,316) is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ

Art Unit: 1785

224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981).

Rather this reference teaches a certain concept, namely the surface layer, and in combination with the primary reference, discloses the presently claimed invention.

However, note that while Araki et al (US 5,714,223) does not disclose all the features of the present claimed invention, Araki et al (US 5,714,223) is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely the print resin layer composition, and in combination with the primary reference, discloses the presently claimed invention.

***Applicants argue that Rivera et al (US 2005/0179253) does not cure the deficiencies of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223).***

The Examiner disagrees and notes that Rivera et al (US 2005/0179253) is a teaching reference used to teach a self-destructive layer disposed on the pressure-sensitive adhesive layer.

However, note that while Rivera et al (US 2005/0179253) does not disclose all the features of the present claimed invention, Rivera et al (US 2005/0179253) is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely a self-destructive layer disposed on the pressure-sensitive adhesive layer, and in combination with the primary reference, discloses the presently claimed invention.

***Applicants argue that Pearce et al (US 5,342,821) does not cure the deficiencies of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223).***

The Examiner disagrees and notes that Pearce et al (US 5,342,821) is a teaching reference used to teach the surface resin layer, image formation resin layer and dye migration preventive layer.

However, note that while Pearce et al (US 5,342,821) does not disclose all the features of the present claimed invention, Pearce et al (US 5,342,821) is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881

Art Unit: 1785

(CCPA 1981). Rather this reference teaches a certain concept, namely the surface resin layer, image formation resin layer and dye migration preventive layer, and in combination with the primary reference, discloses the presently claimed invention.

***Applicants argue that Bourdelais et al (US 6,261,994) does not cure the deficiencies of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Pearce et al (US 5,342,821).***

The Examiner disagrees and notes that Bourdelais et al (US 6,261,994) is a teaching reference used to teach the biaxially stretched film.

However, note that while Bourdelais et al (US 6,261,994) does not disclose all the features of the present claimed invention, Bourdelais et al (US 6,261,994) is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nieveit*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely the biaxially stretched film, and in combination with the primary reference, discloses the presently claimed invention.

***Applicants argue that Yukawa et al (US 2005/0148469) does not cure the deficiencies of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223).***

The Examiner disagrees and notes that Yukawa et al (US 2005/0148469) is a teaching reference used to teach the surface resin layer, image formation resin layer and dye migration preventive resin layer.

However, note that while Yukawa et al (US 2005/0148469) does not disclose all the features of the present claimed invention, Yukawa et al (US 2005/0148469) is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nieveit*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely the surface resin layer, image formation resin layer and dye migration preventive resin layer, and in combination with the primary reference, discloses the presently claimed invention.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SATHAVARAM I. REDDY whose telephone number is (571) 270-7061. The examiner can normally be reached on 8:00 AM-5:00 PM.

Art Unit: 1785

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Ruthkosky can be reached on (571) 272-1291. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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